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NOTES ON GEOGRAPHIC DISTRIBUTION

Uroderma magnirostrum Davis, 1968 (Chiroptera: Phyllostomidae): First record from the state of Sergipe, northeastern Brazil

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ABSTRACT: This study provides the first record of *Uroderma magnirostrum* Davis, 1968 from the state of Sergipe in the Brazilian northeast, based on the capture of two specimens, one male and one female. The morphometric data and morphological characters were consistent with those recorded for the species at other Brazilian sites. This record extends the distributional range of the species within South America approximately 220 km eastwards.

The genus *Uroderma* Peters, 1866 includes two species of medium-sized bats, *Uroderma bilobatum* Peters, 1866 and *Uroderma magnirostrum* Davis, 1968, both of which occur in Brazil (Simmons 2005; Gardner 2007; Peracchi *et al.* 2011). *Uroderma magnirostrum* has been recorded in Bolivia, Colombia, Ecuador, Guyana, Peru, and Venezuela (Gardner 2007). In Brazil, the species has been recorded in the Amazon basin (Martins *et al.* 2006; Bernard and Fenton 2002; Bernard *et al.* 2011), Pantanal (Alho *et al.* 2011), Cerrado (Pine *et al.* 1970; Marinho-Filho 1996), Atlantic Forest (Peracchi and Albuquerque 1993; Nogueira *et al.* 2003; Tavares *et al.* 2007), and Caatinga (Mares *et al.* 1981; Willig and Mares 1989).

Despite its broad geographic distribution and the variety of habitats occupied by the species, *U. magnirostrum* appears to be relatively rare locally (Willig 1983; Nogueira *et al.* 2003). In the Brazilian northeast, *U. magnirostrum* has been recorded at only three localities (Mares *et al.* 1981) (Figure 1). This is the first record of *U. magnirostrum* for the Brazilian state of Sergipe, and represents an approximate 220 km extension of its distribution to the east.

Two specimens of *U. magnirostrum* were captured during a survey of the bat fauna of Serra da Guia, in Poço Redondo, Sergipe (09°58' S, 37°52' W), between May and July, 2009 (Figure 1). The specimens were captured in mist-nets (100 x 2.5m) in an area of arboreal caatinga ("caatinga alta" of Mares *et al.* 1981: p 89), located at the foothills of the Serra da Guia. The study area is covered by this vegetation – dominated by arboreal cacti and trees of the Leguminosae and Euphorbiaceae families – up to an altitude of 650 m a.s.l. The specimens collected are an adult male (UFPB 6107) and an adult female (UFPB 6106), both were fixed in 10% formalin, preserved in 70% ethanol, with subsequent extraction of the skull, and deposited in the Zoological Collections of the Federal University of Paraíba in João Pessoa.

The genus *Uroderma* can be distinguished from all other stenodermatines by the parallel and markedly bifid

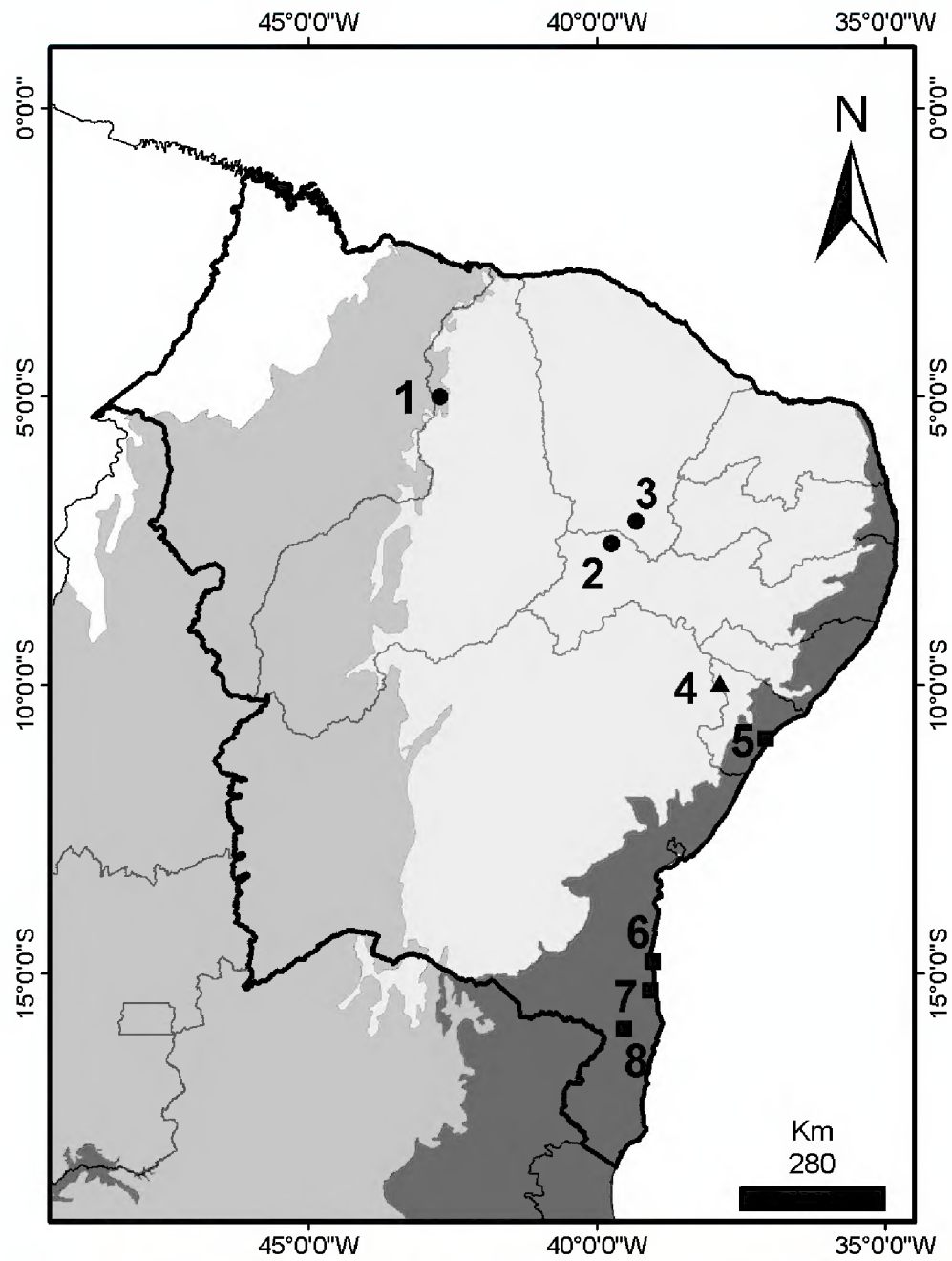

FIGURE 1. Records of *Uroderma* in the Brazilian Northeast (bold outline). Biomes: dark gray = Atlantic Forest; medium gray = Cerrado; light gray = Caatinga; white = Amazon. Black Circle = *U. magnirostrum* (1) Km 18, federal highway BR 316, 18 km south of Teresina, Piauí; (2) Exu, Pernambuco; (3) Araripe-Apodí National Forest, 8 km south-southwest of Crato, Ceará (Mares *et al.* 1981); Black Triangle = *U. magnirostrum* (4) Serra da Guia, Poço Redondo, Sergipe (this study); Black Square = *U. bilobatum* (5) São Cristóvão, Sergipe (Rocha *et al.* 2010), (6) Ilhéus, Bahia; (7) Una, Bahia; (8) Itapebi, Bahia (Faria *et al.* 2006).

upper internal incisors, and the contact between the four lower incisors (Gardner 2007). *Uroderma magnirostrum* can be differentiated from *U. bilobatum* by its heavy, deep

rostrum, and by the gradual, nearly straight slope of the dorsal profile of the skull, from the crown to the tip of the snout (Figure 2), and the marked lateral expansion of the mesethmoid bone, which forms a shield-like structure as seen in the frontal view (Figure 3). The facial stripes of *U. magnirostrum* are also poorly developed or absent, and the internal surface of the ear is unicolor, with no white or yellowish edging (Davis 1968). All the external and cranial characters of the two *U. magnirostrum* specimens collected in the present study are in accordance with characters described by previous authors (Davis, 1968; Nogueira *et al.* 2003). Additionally, cranial measurements taken from the specimens from Sergipe fall within the range recorded for specimens collected in southeastern Brazil (Table 1).

Figure 2. Lateral view of the skull of (A) *Uroderma magnirostrum* (UFPB 6107) and (B) *Uroderma bilobatum* (UFPB 5281). Scale bar = 10 mm.

Figure 3. Frontal view of the skull of (A) *Uroderma magnirostrum* (specimen UFPB 6107) and (B) *Uroderma bilobatum* (specimen UFPB 5281). The mesethmoid bone is indicated by the white arrow.

Table 1. Cranial measurements of the *Uroderma magnirostrum* specimens collected during the present study, at Serra da Guia, Sergipe, and at other localities in southeastern Brazil. [1] Data from Nogueira *et al.* (2003) for specimens collected from Jaíba and Timóteo (Minas Gerais), Linhares (Espírito Santo), and Rio de Janeiro.

	Present study		Southeastern Brazil[1]	
Parameter	**Male (UFPB 6107)**	**Female (UFPB 6106)**	**Male (n=7)**	**Female (n=5)**
Greatest length of skull	22.84	23.30	23.54 ± 0.54	22.99 ± 0.22
Condylobasal length	21.15	21.59	21.04 ± 0.56	20.62 ± 0.22
Mastoid breadth	10.75	10.92	10.94 ± 0.20	10.92 ± 0.22
Zygomatic breadth	-	12.52	12.72 ± 0.62	12.67 ± 0.31
Breadth of braincase	9.23	9.66	9.54 ± 0.34	9.41 ± 0.25
Postorbital constriction	5.64	5.89	5.82 ± 0.20	5.69 ± 0.15
Palatal length	10.96	11.87	-	-
Palatal breadth	4.68	4.62	-	-
Breadth across upper canines	5.20	5.31	5.71 ± 0.20	5.58 ± 0.12
Breadth across upper molars	8.66	9.01	8.94 ± 0.35	9.11 ± 0.14
Length of maxillary toothrow	7.26	8.30	8.89 ± 0.23	8.87 ± 0.22
Length of mandible	15.04	15.54	15.81 ± 0.44	15.40 ± 0.24
Height of ramus at the coronoid process	4.74	5.21	-	-

While *U. magnirostrum* and *U. bilobatum* are sympatric throughout much of tropical South America (Davis 1968) their distribution in the Brazilian northeast does not appear to follow this pattern (Figure 1), as in this region *U. magnirostrum* occurs exclusively in the semi-arid Caatinga, and *U. bilobatum* in the coastal Atlantic Forest. This scenario may reflect the distinct mosaic of dry and wet climate and vegetation associated of the Brazilian northeast in comparison with the rest of the geographic occurrence of the genus, and may further indicate that *U. magnirostrum* can tolerate arid conditions, *i.e.* the Caatinga better than *U. bilobatum*. This condition is also suggested by the non-overlapping distribution of *U. bilobatum* and *U. magnirostrum* within Sergipe in two closely located sites representative of the Atlantic Forest (Rocha *et al.* 2010) and Caatinga biomes (this study) respectively.

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